

Strengthening Teacher Education for Global Competitiveness: The Singaporean Way

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ABSTRACT

Education is vital for the growth of a country's economy. To provide good education, competent teachers are needed. To have such teachers, a good teacher education programme is required. Such a programme is important in helping a country increase the standard of teachers, and in placing the country in a good position for global competitiveness. An effective programme can help teachers develop the necessary knowledge, 21st century skills and values for optimal teaching. These teachers can in turn lay the foundation for their students' life-long learning. In this paper, the author expounds on how Singapore's Teacher Education Programme at the National Institute of Education (NIE) underwent review to implement a programme that meets the demands of the 21st century education landscape and to remain relevant in the global arena. The author explains what NIE does in particular to enhance her student teachers' learning journey at the Institute and to strengthen their theory-practice nexus. The author also shares how interested educators can reflect on the Singaporean Model, adapt and implement some of the relevant strategies in their own teacher education programmes in their universities or institutions, so as to strengthen the education literacy in their respective countries.

Keywords: Teacher Education, Global Competitiveness, Theory-Practice Link, Practicum

1. INTRODUCTION

Why should a country aim to strengthen her education literacy or teacher education for global competitiveness? What actually is meant by 'global competitiveness'? The World Economic Forum publishes a report on global competitiveness every year. This report "assesses the ability of countries to provide high levels of prosperity to their citizens. This in turn depends on how productively a country uses available resources" (Wikipedia, 2017, p.1). The report has twelve pillars of competitiveness. Pillar 4 is on good health and primary education, and Pillar 5 is on higher education and training. Pillar 5 "measures both the quantity and quality of skills and the training that today's workers possess, as well as the level of education and skills of tomorrow's workforce, with particular emphasis on the use of ICTs in school and the style of teaching" (World Economic Forum, 2016, p. 57). The Global Competitiveness Report provides one with

an understanding as to why it is important for a country to strengthen her education literacy and teacher education. Basically, it is vital for the growth of the country's economy, that is, for the improvement of the standard of living in that country.

Singapore, second in position in the Global Competitiveness Index 2016-2017, believes in investing in good education. She lacks natural resources so she has to rely on her human resources and invest in them. According to Darling-Hammond (2006): "Education is increasingly important to the success of both individuals and nations, and growing evidence demonstrates that – among all educational resources – teachers' abilities are especially crucial contributors to students' learning" (p. 300). Since teachers' abilities are important in shaping the education of their students, there has to be effective teacher education programmes to equip these teachers. In Singapore, the National Institute of Education (NIE) is the only teacher education institution. She has the heavy responsibility of helping teachers

develop the necessary knowledge, 21st century skills and values for optimal teaching so that these teachers can lay the foundation for their students' life-long learning. To meet the demands of the 21st century education landscape and to be relevant in the global arena, NIE has to review and enhance her teacher education programme continually.

2. TEACHER EDUCATION PROGRAMME AT NIE

In the years 2008 and 2009, NIE underwent an institute-wide review of her programmes. New initiatives laid out by the Singapore's Ministry of Education for the schools were taken into consideration when NIE refined her programmes. A new Teacher Education Model for the 21st Century was designed. This Model recommended enhancement in six main aspects across the whole spectrum, from initial teacher preparation to teacher professional development. The enhancements included adopting a new Values³, Skills and Knowledge Model; having a Graduand Teacher Competencies Framework; strengthening the theory-practice nexus; establishing a pedagogies strategy and framework; having an assessing framework of learning and for learning; and enhancing pathways for professional development. For the purpose of this paper, only the first three enhancements that relate to the initial teacher preparation programmes will be expounded on.

2.1 Values³, Skills, Values Model

In the past, NIE had the VSK (Values, Skills and Knowledge) Model that guided the design and delivery of her programmes. This Model has since been enhanced to the V³SK version (see Table 1). The underlying philosophy of NIE's teacher education is the V³SK. The programmes and courses are guided by this Model. NIE wants her student teachers to have the "positive attitudes,

necessary skills, and depth and breadth of content knowledge" (NIE, 2009, p. 23) so that they can face "the challenges of the 21st century classroom" (p. 23).

Table 1. Components in the V³SK Model

V1 Learner-Centred Values <ul style="list-style-type: none"> • Empathy • Belief that all children can learn • Commitment to nurturing the potential in each child • Valuing of diversity 	V2 Teacher Identity <ul style="list-style-type: none"> • Aims for high standards • Enquiring nature • Quest for learning • Strives to Improve • Passionate • Adaptive & Resilient • Ethical • Professionalism 	V3 Service to the Profession and Community <ul style="list-style-type: none"> • Collaborative learning and practice • Building apprenticeship and mentorship • Social responsibility and engagement • Stewardship
Skills <ul style="list-style-type: none"> • Reflective skills & thinking dispositions • Pedagogical skills • People management skills • Self-management skills • Administrative & management skills • Communication skills • Facilitative skills • Technological skills • Innovation and Entrepreneurship skills • Social and emotional intelligence 		Knowledge <ul style="list-style-type: none"> • Self • Pupil • Community • Subject content • Pedagogy • Educational Foundation & Policies • Curriculum • Multicultural literacy • Global awareness • Environmental awareness

The three sets of values emphasised in this Model are: Learner-centred values; Teacher identity; and Service to the profession and community. Because teaching is all about the learners, it is hence important for student teachers to have values that are centred around their student-learners. One such value is having the belief that all children can learn. Because teaching is also about the teachers themselves, it is vital for student teachers to develop values that build on teacher identity. For example, student teachers should have an enquiring nature and quest for learning because the global educational scene is evolving, and the student teachers have to keep abreast of the changes in order to prepare their students for the world before them. The third set of values focuses on service to the teaching profession and the community at large. Student teachers have to value their relationships with their teaching fraternity and the community by engaging in collaborative learning and practice, for instance.

Other than values, the V³SK Model also encompasses a range of skills that is needed in a world that is rapidly changing in demands and technology. In the past, a skill which teachers must have is linked directly to the delivery of lessons. However, in this century, teachers are also required to sharpen their facilitative, technological, innovation and entrepreneurship skills. As for soft skills, they are expected to develop their social and emotional intelligence, and be reflective. The above mentioned skills are included in the Skills component of the V³SK Model.

Where Knowledge is concerned, in this knowledge-driven economy, NIE wants her student teachers to have global and environment awareness, besides having knowledge of themselves, pupils and the community.

2.2 The Graduand Teacher Competencies Framework

A list of Graduand Teacher Competencies (GTC) was crafted as a result of NIE's review of the programmes (see Table 2). The GTC Framework spells out "a set of professional stands, benchmarks and goals for NIE graduands" (NIE, 2009, p. 23), and it is a "holistic integration of the revised V³SK Model and the MOE [Ministry of Education of Singapore] competencies framework for beginning teachers" (NIE, 2009, p. 23). The three performance dimensions: professional practice; leadership and management; and personal effectiveness, are also terms found in the MOE's documents for assessing teachers' performance.

Some of the competencies found in the GTC Framework are attainable while student teachers are undergoing their initial preparation programmes while others are just for them to be aware of at this stage in their profession. The various courses the student teachers take at NIE would have equipped them to handle the main roles of "nurturing the child and

quality of learning of the child; strong subject mastery and competencies related to the teaching and learning of the subject; working with and respecting others; and values pertaining to self" (NIE 2009, p. 54). The GTC Framework will be explicitly featured during practicum when the student teachers have their focused conversations with their mentors. This will be discussed in section 2.3.2.

Table 2. Graduand Teacher Competencies Framework

Performance Dimensions	Core Competencies
Professional Practice	<ol style="list-style-type: none"> 1. Nurturing the child 2. Providing quality learning of child 3. Providing quality learning of child in CCA 4. Cultivating knowledge: <ol style="list-style-type: none"> i. with subject mastery ii. with reflective thinking iii. with analytic thinking iv. with initiative v. with creative teaching vi. with a future focus
Leadership & Management	<ol style="list-style-type: none"> 1. Winning hearts & minds <ol style="list-style-type: none"> i. Understanding the environment ii. Developing others 2. Working with others <ol style="list-style-type: none"> i. Partnering parents ii. Working in teams
Personal Effectiveness	<ol style="list-style-type: none"> 1. Knowing self and others <ol style="list-style-type: none"> i. Tuning into self ii. Exercising personal integrity iii. Understanding and respecting others iv. Resilience and adaptability

Adapted from NIE, 2009, p. 53

2.3 Strengthening the Theory-Practice Nexus

Many, if not all teacher education universities or institutions, continually aim to help their student teachers link theory with practice. Ramsay and Battersby (1988) found in their research that student teachers tended to have "developed a mindset which places theory in one compartment and practice in another" (p. 15). Anderson and Freebody (2012) are optimistic that this "theory-practice dichotomy is made and therefore can be un-made if there is the institutional will to do so" (p. 360). NIE has the "institutional will" to bridge this gap through the various ways expounded below.

2.3.1 e-Portfolio

The use of portfolios is one mode to bridge the gap mentioned above. In NIE, the portfolios are in the electronic form and every student teacher is required to set up one. This e-Portfolio is considered a teaching and learning portfolio. Over time, student teachers tend to forget what they have learnt at NIE. Uploading their course assignments, reflections, resources, videos and even photographs of their class presentations or themselves in action during tutorials onto their e-Portfolios help student teachers document their learning journey in NIE, and assist them in tracking their professional and personal development. Tutors and peers' feedback on their work are also stored in the e-Portfolios.

To formalise the use of e-Portfolio, a course entitled "Professional Practice and Inquiry" has been introduced. This course systematically guides the student teachers how to utilise the e-Portfolio and how to do professional inquiry into their teaching. Student teachers are taught how to write their teaching philosophies, and they have to upload them onto their e-Portfolios before going for their practicum. They write based on their convictions about teaching and the theories they have learnt. Once they have gone through their practicum, they are likely to change their teaching philosophies. This is how practice is linked to theory.

In the Professional Practice and Inquiry course, the student teachers are also taught reflective practice. They can use the reflection model to reflect on the courses they have learnt. This theoretical part of their learning will be put into full practice once again during their practicum when they reflect on the lessons they have conducted and when they converse with their School Coordinating Mentors. How this is done will be elaborated in the following section.

In addition to reflective practice, the student teachers are also introduced to professional inquiry. During practicum, they are required to collect simple data to help them improve their teaching. They are to upload their simple write-up onto their e-Portfolios for their NIE supervisors, who are faculty members, to assess. This is another way for students to link theory to practice.

Just before graduation, the student teachers' e-Portfolios will be transferred over to the Ministry of Education's portal. This implies that the student teachers can still keep their artefacts in their new teaching portfolio when they become Beginning Teachers. They can continue to refer to what they have learnt at NIE and put them into use in their own classrooms. At the same time, they can add new artefacts to their teaching portfolios.

2.3.2 Focused Conversations

Another way which NIE helps student teachers make the connection between theory and practice is through focused conversations. All final year student teachers have to go through a ten-week practicum. During the ten weeks, they have to meet up with their School Coordinating Mentors (SCMs) together with the fellow student teachers posted to their schools, for three focused conversations. The SCMs are normally senior teachers in the schools who help to coordinate the practicum schedules of the student teachers posted to their schools.

In Focused Conversation 1 (FC1), the student teachers introduce themselves to the SCMs, share their teaching philosophies, and highlight what they have learnt from NIE which they can use during their practicum. They can either showcase their e-Portfolios or extract the above information from their e-Portfolios and present them using powerpoint slides. In the past, when there was no e-Portfolio or Focused Conversation 1, student teachers could not articulate what they

had learnt from NIE and claimed that they had learnt nothing valuable. Some school personnel also did not know what NIE had taught the student teachers. With the introduction of FCs, that changes. A SCM commented that now she is aware of the content and methodologies taught at NIE because of the sharing by the student teachers. Hence, FC1 is useful for both student teachers and SCMs.

Focused Conversations 2 (FC2) occur in the middle of practicum. Prior to FC2, student teachers have to prepare what they are going to share. They are to reflect on an issue that they encountered in their classrooms, using the 4-step reflection process by York-Barr, Sommers, Ghore & Montie (2006) that they have learnt in their Professional Practice and Inquiry course. The SCMs, who have attended a workshop on how to facilitate FC2, will lead the student teachers to “examine their understanding of theories, encourage them to re-visit their philosophies of teaching and learning, and guide them to go to their theoretical base when making their decisions” (Png & Liu, 2017, p. 228). This is again theory-practice nexus in action.

For Focused Conversation 3, student teachers do a powerpoint presentation on what they have learnt during their practicum, and share how they have grown using the Graduate Teacher Competencies Framework (see Table 2) as a guide. One SCM was delighted that the FC3 had helped student teachers “to take stock of what they have learnt about their teaching and themselves during the practicum with reference to the given set of competencies [GTC]” (cited in Liu, Tan, & Wong, 2017, p. 207).

3. IMPLICATIONS FOR TEACHER EDUCATION UNIVERSITIES OR INSTITUTIONS, PARTICULARLY IN SOUTH- EAST ASIA

It is important for teacher education

universities or institutions to review their programmes periodically so that their curricula can be enhanced, and the improvements will in turn help raise the standard of teacher training, teachers and students’ learning. At the same time, the universities or institutions can benchmark their standards against those in more developed countries. NIE, which is part of

The Nanyang Technological University, has benefited from her last review – she is ranked 18th in the World and 3rd in Asia in the 2017 Quacquarelli Symonds World University Rankings for education. This has assured NIE that she must be heading in the right direction.

NIE’s underpinning philosophy in her teacher education programmes is values-driven. This is in line with the Singaporean education system that “adopts a holistic approach that preserves national culture, identity and values rooted in the family and community” (Lee & Tay-Koay, 2009 cited in Tan, Low, & Sim, 2017, p. 50). In addition, “Quality [quality] teaching is intimately related to values education” (Tan, Low, & Sim, 2017, p. 47), and research has indicated that “relationship qualities and values play an important role in the development of students” (Tan et al., 2017, p. 47). Many countries in Southeast Asia also believe in upholding their family and community values. It might be worth considering if the values these countries hold closely to should be included in their teacher education programmes too.

With regard to the use of e-Portfolios, Chou and Chen (2009, cited in Liu, Koh, & Chua, 2017) have observed that e-Portfolios are commonly used in higher institutions across Asia, the United States of America and Europe. For countries with weak internet connections in some parts of the countries, who do not want to lag behind in the global standing, their teacher education universities or institutions can turn to the use of the hard copies of portfolios instead. Their student teachers “can still file their written copies

of teaching philosophies and hard copies of their artefacts in the portfolios, and showcase them during their presentations to their mentors” (Png, in press). The benefits of the use of portfolios to link theory and practice have been mentioned in the earlier paragraphs.

Reflective Practice is gaining popularity world-wide. Many educators are aware that merely attending a one-day workshop conducted by an external consultant or educator may not add much value to their professional development, that is, it may not help them translate what they have learnt into classroom practice. York-Barr, Sommers, Ghore and Montie (2006) strongly believe that “Reflection [reflection] on experience with subsequent action is the pathway to renewal and continuous improvement” (p. xx). In other words, this improvement is one positive way to strengthen teacher education for global competitiveness. If more and more teachers are trained to be reflective practitioners, the schools will soon have a culture of reflection. That will be a step towards strengthening education literacy, something that is valuable for the country too. It is not difficult for teacher education universities or institutions in Southeast Asia to incorporate reflective practice into their curriculum.

4. CONCLUSION

Is it necessary to strengthen a country’s teacher education when the world seems to be in turmoil now? The answer is affirmative, particularly if the country wants to stay competitive globally and wants to improve her economy despite the upheavals in the world. Education, including teacher education is worth investing in. How can a country’s teacher education be strengthened? This paper has shown how it is done in Singapore’s teacher education institute. Teacher educators in Southeast Asia could perhaps reflect on

some of the ways highlighted in this paper, adapt and implement some of the strategies relevant to their universities or institutions.

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